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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/032,949	12/26/2001	Naoki Mukaida	10416-18	7222

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EXAMINER

INOA, MIDYS

ART UNIT	PAPER NUMBER
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2188

DATE MAILED: 11/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/032,949

Applicant(s)

MUKAIDA ET AL.

Examiner

Midys Inoa

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 August 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Estakhri et al. (5,835,935) in view of Konishi et al. (5,579,502).

Regarding Claims 1-2, 10, 13-17, 19-20, Estakhri et al. discloses a memory controller 200 for accessing a memory 212 having a plurality of blocks (clusters) each constituted of a plurality of pages (sectors) based on a host address supplied from a host computer (Figures 9 and 3, Column 6, lines 21-36 and Column 3, lines 34-47). Estakhri teaches table 144 holding flag information regarding the sectors within the memory, which is consulted at the time of a read or write access (Column 6, lines 37-53). **Estakhri also discloses a flag for showing whether or not data is written to a redundant area.** Estakhri does not disclose decision means responsive to a request to write user data issued by the host computer for determining whether progressive data writing for writing user data to a target page designated by the host address is possible, wherein the decision means make the determination based on start page data which was written to a redundant area; and write means responsive to an affirmative determination by the decision means for writing user data to the target page without performing an inter-block data transfer. Konishi et al. discloses searching a management table for a free block in a memory to write data to (Column 14, line 66 – Column 14, line 7). In this system, the decision means and write means

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would be a data processing controller 16 since this component determines if the free block is available for use (“writing is possible”) and if so, write the data on to that free block. **Konishi also discloses writing a start page of a block in a management table (translation table) wherein the start page is written if a write error occurs (Column 14, line 36 – Column 15, line 7).** It would have been obvious to one of ordinary skill in the art at the time the invention was made to add a “free block” flag to the table of Estakhri et al. and to integrate the free block table searching procedure of Konishi et al. in order to facilitate the finding of free sectors within the memory when computer updates are being applied to the memory clusters (Column 3, line 62 – Column 4, line 15). The resulting means for deciding if a write access is possible by determining if the target page is free and writing such access if such determination is affirmative, would be effective for any subsequent page requests (second, third, fourth target pages). **Additionally, it would have been obvious to one of ordinary skill in the art at the time the invention was made to integrate the method of Konishi of writing a start page of a block in a management table (translation table) wherein the start page is written if a write error occurs with the redundant flag of Estakhri because the redundant flag indicates the error causing the writing of the start page on the management table (“based on start page data written to a redundant area”).**

Regarding Claim 18, Estakhiri discloses the memory 100 (figure 1) wherein each block 116 has a user area (data) and a redundant area (flags) in which flag information is kept. In combining the invention of Estakhiri with the free block method of Konishi, it would have been obvious to one of ordinary skill in the art at the time the invention was made to add a free page indication to the flag section of Estakhiri in order to allow the status of the particular block to be

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permanently stored so that when table 144 needs to be rebuilt, such data can be retrieved from each block.

Regarding Claim 3, Konishi discloses writing at least a part of new free page information (“writes start address YYYY of block X in the portion corresponding to block number Y”) resulting from writing user data to at least one page included in the block which includes the target page (Column 15, lines 8-15).

Regarding Claims 4-5, 11-12, Konishi discloses a management table containing information designating free pages within the memory, which in turn is the same as indication of whether any free pages exist. If the table does not designate any pages as free, then that indicates that no free pages exist. Additionally, in designating all free pages, the table would also mark as free any free pages following the first free page (“the free page data designate a second page following the first page”).

Regarding Claims 6-7, Estakhiri et al. discloses a memory controller 200 and table generating means for generating the table based on the first information read from a top page of at least a part of the plurality of blocks (“restoring or reloading the table 144”, Column 6, lines 37-53).

Regarding Claims 8-9, Estakhiri et al. discloses obtaining the tag information contained in table 144 by reading items of start page information indicating those pages among the pages contained in corresponding blocks that are top pages of sets of one or more pages (“system sectors... holding flags”, Column 6, lines 37-53). In combining the invention of Estakhiri with the free block method of Konishi, it is understood that in reading the items of the start page, all pages are free pages would be clearly designated as such.

Response to Arguments

3. Applicant's arguments filed August 04th, 2004 have been fully considered but they are not persuasive.

Applicant argues that the Prior Art does not teach decision means responsive to a request to write user data issued by the host computer for determining whether progressive data writing for writing user data to a target page designated by the host address is possible, **wherein the decision means make the determination based on start page data which was written to a redundant area.** However, Estakhri discloses a flag for showing whether or not data is written to a redundant area; and Konishi discloses writing a start page of a block in a management table (translation table) wherein the start page is written if a write error occurs (Column 14, line 36 – Column 15, line 7).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to integrate the method of Konishi of writing a start page of a block in a management table (translation table) wherein the start page is written if a write error occurs with the redundant flag of Estakhri because the redundant flag indicates the error causing the writing of the start page on the management table (“based on start page data written to a redundant area”).

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**

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MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Midys Inoa whose telephone number is (571) 272-4207. The examiner can normally be reached on M-F 7:00am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mano Padmanabhan can be reached on (571) 272-4210. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Midys Inoa
Midys Inoa
Examiner
Art Unit 2188

MI

Mano Padmanabhan
7/1/04

MANO PADMANABHAN
SUPERVISORY PATENT EXAMINER